

We claim:

- 1 1. A circuit comprising:
 - 2 an active pull-up device;
 - 3 a level shift circuit coupled to the active pull-up device wherein the active pull-up
 - 4 device is coupled to a one wire bus and the level shift circuit is also coupled to circuit
 - 5 ground.
- 1 2. The circuit of claim 1 where one connection point of the level shift circuit is coupled
- 2 to a reference connection point of the active pull-up device and another connection point
- 3 of the level shift circuit is connected to circuit ground.
- 1 3. The circuit of claim 1 where the active pull-up device has a voltage sense switch that
- 2 is coupled to the level shift circuit.
- 1 4. The circuit of claim 1 where the level shift circuit is a diode with its cathode
- 2 connected to circuit ground and its anode connected to a reference connection point of the
- 3 active pull-up device.
- 1 5. The circuit of claim 1 where at least one I-button device is coupled to the one wire bus
- 2 and coupled to circuit ground.
- 1 6. The circuit of claim 1 where a transceiver having a processor is coupled to the one
- 2 wire bus and to circuit ground.
- 1 7. A circuit comprising:

2 a level shift circuit and an active pull-up device where the level shift circuit
3 provides a reference voltage to the active pull-up device and the level shift circuit is
4 connected to circuit ground.

1 8. The circuit of claim 7 where the active pull-up device is coupled to a one wire bus.

1 9. The circuit of claim 7 where one connection point of the level shift circuit is coupled
2 to a reference point of the active pull-up device and another connection point of the level
3 shift circuit is connected to ground.

1 10. The circuit of claim 7 where the active pull-up device has a voltage sense switch that
2 is coupled to the level shift circuit.

1 11. The circuit of claim 7 where the level shift circuit is a diode with its cathode
2 connected to circuit ground and its anode connected to a reference connection point of the
3 active pull-up device.

1 12. The circuit of claim 7 where at least one I-button device is coupled to a one wire bus
2 and coupled to circuit ground where the active pull-up device is coupled to the one wire
3 bus.

1 13. The circuit of claim 7 where a transceiver having a processor is coupled to the one
2 wire bus and to circuit ground.